Redstor Code Challenge

Introduction

As part of our recruitment process, we ask potential employees to take our “Code Challenge”. This is a small project designed to allow you to showcase your software development skills and demonstrate good object-oriented principles and design.

The Challenge

Implement the code for a supermarket checkout that calculates the total price of a number of items. In a normal supermarket, items are identified using Stock Keeping Units (SKUs), but in our store we’ll be using individual letters of the alphabet (A, B, C etc). Our goods are priced individually, but some items also have multibuy offers. For example, item A might cost 60 individually, but if you buy three A’s then they’ll cost you 150. This week’s prices are as follows:

Item	Unit Price	Special Price
A	60	3 for 150
B	30	2 for 45
C	30	
D	25	

Items can be scanned in any order, so if we scan a B, an A, then another B, we’ll recognise the offer for two B’s and price them at 45, giving a total price of 105. Because our store changes its pricing frequently, we need to be able to pass in a set of pricing rules each time we begin handling a checkout transaction.

You may use any language and technologies to design and implement your solution. The interface for the checkout should look similar to the following pseudocode:

```
checkout = new Checkout(pricingRules)
checkout.Scan(item)
checkout.Scan(item)
…
price = checkout.Total
```

Here are some example totals for sequences of items, which you may find useful for testing your solution.

Items	Total
A	60
A B	90
C D B A	145
A A	120
A A A	150
A A A A	210
A A A A A	270
A A A A A A	300
A A A B	180
A A A B B	195
A A A B B D	220
D A B A B A	220

Submission

Please upload your solution (including any instructions to build/run) to a public repository on GitHub. Once uploaded, email neil.kilbride@redstor.com with the details.

Good luck!